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Contact: Ben Sherman, NOAA (301) 713-3066
Dwayne Brown, NASA (202) 358-1726
John Bluck, NASA Ames Research Center,
(650) 604-5026

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NASA JOINS INTERAGENCY RESPONSE TO 'DEVASTATING' CORAL BLEACHING IN CARIBBEAN WITH EMERGENCY SCIENTIFIC TEAM

Responding quickly to one of the most devastating coral bleaching events on record in the Caribbean, a NASA-led team is in the region this week assessing the situation as part of a U.S. inter-agency response called for by the U.S. Coral Reef Task Force at its meeting this November.

"I'm very pleased to have NASA step up and bring its expertise and assets to help the scientific community understand and address this devastating event," says NOAA's Timothy Keeney, deputy assistant secretary of commerce for oceans and atmosphere and Task Force co-chair.

Warnings of the onset of this event were first reported by the NOAA Coral Reef Watch Satellite Bleaching Alert monitoring system in late August in the Florida Keys and spread throughout much of the eastern Caribbean in September and October.

Coral bleaching is associated with a variety of stresses including increased sea surface temperatures. This causes the coral to expel symbiotic micro-algae living in their tissues – algae that provide corals with food. Losing their algae leaves coral tissues devoid of color, and thus appearing to be bleached. Prolonged coral bleaching (over a week) can lead to coral death and the subsequent loss of coral reef habitats for a range of marine life.

"Coral reefs are considered 'canaries of the oceans' acting as an early warning system for marine ecosystems," said Liane Guild, a scientist at NASA Ames Research Center, located in California's Silicon Valley. She is leading the NASA emergency deployment from Dec. 12 – 20 to rapidly assess the damage before other changes take place in the damaged reefs.

The NASA-led interagency team will be looking at reefs in Puerto Rico including, study sites at La Parguera and Culebra Island. U.S. Virgin Island sites are Buck Island and the north coast of St. Croix as well as the south coast of St. John.

With both financial and staff support from NASA, National Oceanic and Atmospheric Administration (NOAA), the U.S. Department of Interior and others, NASA is making flyovers above the affected reefs to gather valuable data.

The team's aircraft will over-fly the bleached reef areas with a digital camera and the NASA Airborne Visible Infrared Imaging Spectrometer (AVIRIS), an instrument that captures visible and infrared light data.

"The importance of this research is that we will be concentrating on aspects that enhance both understanding and prediction of reef status in terms of the extent of bleached corals, coral mortality, evidence of recovery, evidence of algal overgrowth and biodiversity using AVIRIS data and field measurements," Guild said.

NASA, NOAA and other organizations also are supporting field monitoring to complement the flyover. Guild's field team will be in the water when the over flights occur, collecting data on the coral to that relate to the AVIRIS data.

"Coral reefs are critical for marine fisheries, providing habitat and nursery grounds, according to experts. Coral reefs also provide coastline protection from severe storms by dampening wave action," Guild also observed.

The NASA-NOAA effort is just one component of response. Many other efforts are underway to help document and track this bleaching event and its long term impacts on Caribbean coral reef ecosystems and the communities that depend on them. The NASA-NOAA over flights are one part of a larger interagency Federal and international effort to document and assess the extent and impacts of this massive bleaching event as called for by the task force. More information can be found at: http://www.coralreef.gov/

Other partners in the current study include researchers from the University of Puerto Rico, NOAA's Coral Conservation Program and the National Park Service in the U.S Virgin Islands

The National Oceanic and Atmospheric Administration, an agency of the U.S. Commerce Department, is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and providing environmental stewardship of our nation’s coastal and marine resources. Through the emerging Global Earth Observation System of Systems (GEOSS), NOAA is working with its federal partners and nearly 60 countries to develop a global monitoring network that is as integrated as the planet it observes.

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NOAA: http://www.noaa.gov
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U.S. Coral Reef Task Force**:** U.S. Coral Reef Task Force - http://www.coralreef.gov